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REMARKS

Reconsideration of the present application is respectfully requested.

Applicant has amended claims 28 and 39 to further define the claimed invention. Claims 30-32 have been cancelled. No new matter is added by the claim amendments.

The rejections under 35 U.S.C.§103.

Claims 28 and 39 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,418,690 to Edwards in view of U.S. Patent No. 4,495,135 to White. The Office Action proposes incorporating the separable first and second mold portions as taught by White into the mold of Edwards in order to facilitate removal of the container. However, claims 28 and 39 have been amended to indicate that the cutting of the thermoplastic material occurs after the material is allowed to cool below its glass transition temperature. Applicant submits that this claim limitation clearly distinguishes over the cited art, and moreover, the proposed combination of White and Edwards would not be obvious in this respect.

In order to form the smooth bead without a parting line, Edwards combines a specific mold shape with a precisely-timed shearing operation. The sidewalls of Edwards have a slightly concave shape such that the thermoplastic material buckles in a predetermined manner (col. 5, lines 13-23; FIG. 3B) at the moment when the shearing operation begins. In particular, "the most important part . . . needing the curved surface is that portion immediately adjacent to [the] shearing surface" (col. 5, lines 50-52; FIG. 3B). Edwards teaches that the shearing members "must move quickly between the sealing position and shearing position so that the plastic material does not have sufficient time to chill" (col. 5, lines 68-70). As a result of this pre-

buckled configuration of the plastic and quick movement of die 18, " the sharp sheared edge portions of the plastic are caused to embed themselves in the still heated plastic . . . without any parting lines or the like" (col. 5, line 74- col. 6, line 4). In this manner of self-adherence, Edwards forms his smooth curvilinear bead (col. 3, lines 55-59).

Thus, Edwards accomplishes an "undercut" by providing a very modest curved shape for the mold member 20a in combination with a bead formation due to cutting of the heated plastic before it has "chilled". The undercut of Edwards is provided for the most part by the formation of the bead, which extends inwardly a substantial amount more than is caused by the curved shape of the mold.

The present invention is directed to the formation of an undercut in a manner that is clearly distinguished from Edwards. The present invention deals with the fact that the undercut extends in a manner that it would be difficult or impossible to reliably removed the thermoformed container out of the mold simply by moving the container upward through a unitary mold. For Edwards, it is clear that this is not a problem because the container is removed simply by pushing the container up through the restricting, upper plane of the mold (i.e., the narrowed opening along the plane of item 36 in Fig. 5).

Further, it would not be obvious to combine Edwards and White in a manner that would lead to the present invention. Applicant specifically requires that the cutting of the thermoplastic material occur after the material has cooled below its glass transition temperature. The Edwards reference is in direct contrast – as it requires that the cutting occur while the heated plastic is still moldable by the cutting action – as shown in Figures 3A-3C.

Further, there is no need or suggestion to combine the two references since it is evident that the Edwards patent is complete in respect to allowing the molded item to be removed. Edwards does not show an "undercut" of a type contemplated by the present invention. In looking at the interior surface of the mold element 20a in Figures 3A-D, it is apparent that any "undercut" is only in the sense that the mold has a slight curve forming the exterior side wall of the container. As previously stated, the curve obviously is not of such degree that a two-part mold component for the side wall is necessary, as the container is simply popped up out of the mold in a simple and direct fashion, as shown in Figures 9 and 10. There is no teaching or suggestion to modify the Edwards mold in the manner of White, since there is no apparent advantage to be gained over the fully-operational teachings of Edwards. To suggest a combination of White with Edwards is a reflection of hindsight.

CLOSING

Applicant has amended claims 28 and 39, and cancelled claims 30-32. Applicant respectfully requests reconsideration of pending claims 28-41.

It should be understood that the above remarks are not intended to provide an exhaustive basis for patentability or concede any basis for rejections or objections in the Office Action. The remarks herein are provided simply to overcome the rejections and objections made in the Office Action in an expedient fashion.

The undersigned welcomes a telephonic interview with the Examiner if the Examiner believes that such an interview would facilitate resolution of any outstanding issues.

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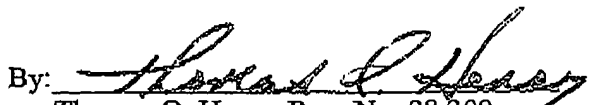
Respectfully submitted,

By: 

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